Outline

Brief description and the timeline of the 2012 population and housing census of Chile

Problems encountered in the census

Solutions for these problems

Lessons for the future censuses
## Timeline of the Census

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>Census planning begun by updating address information and budgeting for a de facto census</td>
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<td>2010</td>
<td>In August, the director of INE has changed</td>
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<td></td>
<td>At the end of 2010, first stage of planning completed: topics covered, preparations of base maps, organization of pre-census, formation of National Census Commission</td>
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<td>2011</td>
<td>Pre-census started in January and ended in November</td>
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<td></td>
<td>September 14: <em>Major change</em> from de facto to de jure census</td>
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<tr>
<td>2012</td>
<td>The census took place from April 9, 2012 to end of July 2012</td>
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<tr>
<td>2013</td>
<td>The census results were announced on April 2, 2013</td>
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</tbody>
</table>
## Timeline of the Census, cont’d

<table>
<thead>
<tr>
<th>Year</th>
<th>Date</th>
<th>Event</th>
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</thead>
<tbody>
<tr>
<td>2013</td>
<td>04/26</td>
<td>The former director of INE resigned due to public allegations about the imputation of unobserved housing units and the form of the census publication</td>
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<td></td>
<td>04/29</td>
<td>The current director resumed the position</td>
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<td></td>
<td>05/02</td>
<td>The published census results were removed</td>
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<td></td>
<td>05/09</td>
<td>INE appointed a Chile-based external commission (EC) to investigate the census, the EC announced their findings on 08/07</td>
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<tr>
<td></td>
<td>09/02</td>
<td>INE appointed an international commission (IC) to further investigate the census, the IC announced their findings on 11/22</td>
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<td></td>
<td>12/22</td>
<td>INE announced the plan of action based on findings of EC and IC, and its own analysis</td>
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<tr>
<td>2014</td>
<td>02/26</td>
<td>INE published the <a href="#">2012 Census</a> results with a detailed documentation of the census process including a quality analysis</td>
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The 2012 Census: Problems

The initial results published on April 2, 2013:

- Unavailability of documentation of the census for the users
- No differentiation between imputed versus collected census data in the publication (although later on it was released that they were differentiated in the data base)
- Imputation of unobserved (during enumeration) housing units and the characteristics of these people
- Lessening public confidence in INE due to the problems mentioned and the political environment (election year)

Other issues:

- Underestimation of data collection problems due to the change of census type
- The head of the Census unit has changed 5 times between 2008 and 2011
- No pilot or experimental census
- Insufficient budget due to underestimation of the expenditures
- Lack of appropriate Post-Enumeration Survey
- 27% of census takers received less than planned training
The 2012 Census: Solutions

First actions of the current administration

- Taking down the published census results for further investigation
- Formation of internal review committee
- Formation of external review committees, both national and international

In the latest release of the census results:

- Imputation of unobserved housing units were removed
- An extensive review of methodology is provided
- Quality analysis of the census data is performed via:
  - Comparison of raw data (pre-editing and imputations) and final data
  - Comparison of observed and final data. The final data includes imputation of non response housing units
  - Simulation study to evaluate the imputation technique used for unit nonresponse
  - Evaluation of the omission bias
  - Publication of the nonresponse and capturing rates
Lessons for the Future Censuses

There is no perfect census

- One should study the impact of the problems, not only their existence

Preparation stage:

- Formation of a new and permanent unit of investigation and undertaking of census to define the quality measures beforehand
- Necessity of the pilot census, both for testing the enumeration and the questionnaire
- Rising public awareness and usage of other strategies to decrease the unit nonresponse
- Publication of the census design and its quality measures before the census
- Formation of updated address files coordinated with GPS
Lessons for the Future Censuses, Cont’d

Release stage:

- Designing a PES in a timely manner following international standards
- Releasing census results with complete transparency, with supporting methodology

Organizational lessons:

- Reinforcing the independence of INE as an institution
- Establishment of a quality unit within INE
- Establishment of a research group within INE that is in collaboration with other statistics institutes in the world

For future censuses:

- Population count in the period between censuses
- Need of careful planning of changes in the census process, i.e., introducing PDA’s or use of the administrative records
www.ine.cl
Download the results from www.censo.cl
Why the change from *de facto* to *de jure*?

- Due to the geographical position of Chile, it is difficult to access all housing units in one day.
  - Around 16,000 census takers were employed as opposed to 550,000 in the 2002 Census.

- Voluntary (2 hr training) versus paid (5 day training) census takers.

- The policy benefits of usual residence census.

- Given that a lot of census takers were students in the *de facto* census, the 2012 student protests caused doubts about their cooperation.
Population 16,341,929 (15,758,682 counted + 583,247 people of non response housing units were imputed)

- Male: 48.7%
- Female: 52.3%
- Urban: 87.1%
- Rural: 12.9%

Total housing units: 5,643,895

- 3.28 person per housing unit